

DSLR Workshop:

Aperture (F-Stop, Iris)

- Depth of Field (DOF) refers to the amount of the image that is in focus.
- Lower Number = Shallower DOF. One part of the image is very sharp and directs the eyes towards it while the background/foreground will be blurred. Lower F-Stop also gives more light to the image. Ex. 1.4-6.3. Great for portraiture, still subjects. (The more zoomed in the lens, the shallower the DOF will be).
- Larger Number = Greater DOF. More of the image is in focus and the eye is not directed to any one particular area. Higher F-Stop gives less light to the image. Ex. 13-22. Great for landscapes, moving subjects.
- When choosing exposure, select your aperture first as it is the most important aspect.
- Higher F-Stop number works well for sunny outdoor shoots.
- Lower F-Stop number works well for night shoots or any low light environment.
- Keep in mind that shallow DOF requires rack focus if there is any movement by the subject or the camera. Therefore, it is best used on still subjects.

ISO

- Keep the ISO as low as possible for best image results.
- Sunny Outdoor Shoots: Keep the ISO at 100.
- Night shoots: Choose a low F-Stop and a Low Shutter Speed and then bump up the ISO as needed.
- Safe ISO Range (cropped sensor): 100-800. Images begin experiencing noise (grain) around 1000. The image will experience more noise as you increase the ISO.

Shutter Speed

- Lower number will give the image more light and larger numbers will give less light.
- For still pictures: Lower numbers will create motion blur, larger numbers will freeze the subject with no blur.
- For video: Shutter speed can be used to darken a sunny outdoor image if you would like a low F-Stop or to give more light to a dark night shoot. However, slow shutter speeds may appear shaky if you are filming handheld.
- Rule of thumb: Try to keep shutter speed two times higher than your desired frame rate.

Grids

- It is very helpful to use the 3x3 grid when framing your image (located in the menu).

- Rule of thirds: Refers to a compositional technique in which you frame important areas of the image on these vertical or horizontal grid lines, as opposed to the middle of the frame. The viewer's eyes are drawn towards those areas.
- When framing a subject or multiple subjects, make a conscious decision between symmetry and asymmetry (that is, don't frame a subject in the middle of your image without a reason/thought process behind it).
- Symmetrical Framing: Image is even on both sides of the frame, an example would be two subjects that are each on a vertical grid with an even amount of space on either side of and between them. Good for establishing shots, two subjects sitting across from each other, frame within a frame.
- Asymmetrical Framing: Single subject will be closer to or directly on either the right or the left vertical grid. The top or bottom lines of a landscape will be lined up with the upper or lower horizontal grid (more likely upper). There will be open space taking up the other third or two thirds of the image.

White Balance

- When moving from one location to another, you will need to change the white balance on the camera.
- Options:
 - Auto White Balance - Not recommended, used for quick white balance changes.
 - Custom White Balance - Take a picture of a white piece of paper filling up the entire frame and then under custom white balance select this picture.
 - Presets - There are many white balance presets that correspond to a certain Kelvin Temperature. Play around with them and see how they look. Cloudy, Shade and Daylight are good for sunny outdoor shoots. Tungsten and White Fluorescent may work for indoor shoots.
 - Manual - Set the Kelvin Temperature Manually. Lower number become more blue (for indoor shoots) and higher numbers become more red (for outdoor shoots). Typical Indoor Temperature = 3500K. Typical Outdoor Temperature = 5700K.
- You want the white parts of the image your eye sees to be the same tint as the white the camera sees.
- Images with a yellow tint are examples of poor white balance.

Lens

- Although Kit Lenses are easy to use and good for autofocus, they are not very sharp.
- Canon L Lenses (red ring) also have autofocus capabilities and are much sharper. Our best autofocus lens is the Canon 24-105mm L Lens (4-22 F-Stop).

- Rokinon lenses are fully manual. This means that you must set the aperture on the lens itself and you cannot autofocus (no communication between camera and lens). They are also prime, which means they don't zoom. Prime lenses allow for lower F-Stop numbers (1.4-22), which means more light and shallow Depth of Field compared to zoom lenses.
- The larger the focal distance (more zoomed in) the shallower the depth of field will get. For example, a Canon lens will have a shallower depth of field when zoomed in to 105mm than it will be at 24mm.
- The focal distance (mm) refers to how far a subject must be from the camera before it can be focused at its closest point. This is why larger focal distances must be placed further away from the subject. If you position a 35mm lens exactly 34mm away from your subject, there will be no point on the focus ring where the image will be completely in focus.
- It is always a good idea to check a lens for dust and smudges before filming.
- Ask us which lenses are available and we will be happy give you a secondary lens as well as the kit lens.

Cinematography

- A lot of this has to do with the use of the grids explained above.
- Think of framing as a puzzle where you want everything in the image to fit into place.
- Watch movies/television shows that you think are shot well and try to imagine the choices the cinematographer made while composing the images.
- Always make active choices when composing your image, each image has the potential to become interesting/cinematic through your choices in framing. On the other hand, this same image may appear dull to the viewer if the framing is different.
- What is the most interesting way to frame something that may not be inherently interesting? Are there foregrounds you can shoot it through? Symbols in the background that relate to themes in your film/ironies?
- Don't point the camera in the direction of the sun or your image will be under or over exposed.
- If you are shooting during the day and can see the sky, make sure you can see the color blue. If the sky is completely white, you have lost information and need to lower the exposure.
- Dynamic Range: The amount of values your camera can distinguish between white and black. If parts of your image are pure white and parts are pure black (no texture), you have lost dynamic range.
- Think about the aesthetic difference between a shot on a tripod, a shot with a shoulder mount and a shot on a slider. Don't move the camera just because you can.

- Think about how much of any action you need to show. Do you need to show a medium shot of someone doing something or can you film it from another area of the location that implies it? Do you need to film this action at all?
- Think about which focal distances will compliment the action you are shooting. Larger focal distances are suitable for close ups and smaller focal distances are suitable for landscapes/establishing shots.
- Look out for continuity. If you have time, it is smart to check the last frame of your previous shot to make sure, for example, your actor is in the same position. Bad continuity is hard to notice during production but very easy to notice once the film is complete and projected on a larger screen. It takes a lot of concentration to avoid.
- Don't rush. Look at your image for as long as you need to make sure the subject is in focus, the white balance is correct, the image is not overexposed or underexposed, there is no equipment or crew that can be seen in the corner of the image and that the framing is optimal/interesting. It is extremely easy to overlook any of these aspects, which will make editing hard later.